

Title: **Water Chemistry: Polyclonal and Monoclonal Antibody Test Kits Procedures for Detection of Pesticides**

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## **1.0 OBJECTIVE**

This section describes how to quantify pesticides from aqueous samples using EnviroGard<sup>®</sup> Plate Kits and Tube Kits from Strategic Diagnostics, Inc.

## **2.0 HEALTH AND SAFETY**

- 2.1 Required PPE (Personal Protective Equipment):
  - 2.1.1 Lab Coat or Apron
  - 2.1.2 Gloves

## **3.0 PERSONNEL/TRAINING/RESPONSIBILITIES**

- 3.1 Persons performing these analyses should receive training on how to operate micropipettors.
- 3.2 Individuals should also be knowledgeable in making dilutions of samples.

## **4.0 REQUIRED AND RECOMMENDED MATERIALS**

- 4.1 Required Materials:
  - 4.1.1 EnviroGard<sup>®</sup> Plate Kit or Tube Kit from SDI, Inc.
  - 4.1.2 EnviroGard<sup>®</sup> Tube Reader (for tube kit assays)
  - 4.1.3 EnviroGard<sup>®</sup> Strip Reader (for plate kit assays) with printer
  - 4.1.4 10-100  $\mu$ L adjustable pipette with tips
  - 4.1.5 100-1000  $\mu$ L adjustable pipette with tips
  - 4.1.6 Parafilm
  - 4.1.7 100ml and 1000ml Volumetric Flasks (for dilutions if necessary)

## **5.0 PROCEDURE**

### **5.1 EnviroGard® Plate Kit**

- 5.1.1 The plate kits are designed to identify and quantify pesticides or pesticide groups within a range of calibrators. Follow all instructions provided with the kits.
- 5.1.2 Operation of the Strip Reader
  - 5.1.2.1 Turn strip reader "on".
  - 5.1.2.2 Make sure the strip carrier is removed from the reader and hit "enter".
  - 5.1.2.3 Pull out filter holder (on front of unit) to the "W2" setting and hit "enter" to calibrate.
  - 5.1.2.4 Push filter holder back in to the "W1" setting and hit "enter" to complete the calibration.
  - 5.1.2.5 The unit contains 6 data ranges. Press "clear" to delete old data from data range "1". The press "option" to toggle through the remaining data ranges. As you toggle through each range, press "clear" to delete old data.
  - 5.1.2.6 Return to data range "1" and press "Blank" to blank the instrument to air.
  - 5.1.2.7 Place trip in carrier and insert into reader. Move the carrier to the first well and press "Read". Once the reading has been taken, move to the second well and press "Read". Continue until all 12 wells have been read. If more than one strip is used, press option to toggle to data range "2". Read second strip as previously described.

### **5.2 EnviroGard® Tube Kit**

- 5.2.1 The tube kits are designed to identify pesticides or pesticide groups above a particular calibrator. Follow all instructions provided with the kits.

## **6.0 QUALITY CONTROL/QUALITY ASSURANCE**

Periodically, samples (10 - 30 % of samples) should be confirmed with analytical chemistry methods.

## **7.0 REFERENCES --**

See the attached Triazine Plate Kit Procedure from Strategic Diagnostics, Inc. as an example.